

What is claimed is:

1. An interactive remote diagnostics, therapy and data exchange system implemented in a bi-directional communications link wherein a remote web-based expert data center, a programmer and a personal data messenger (PDM) operating as web-compatible interface medical devices for an IMD are remotely linked to implement remote data exchange relating to diagnostics, therapy and chronic management of the IMD, the system comprising:

the remote web-based expert data center including high speed computer resources;

a bi-directional communications system being in operable data communications with the resources at the remote web-based expert data center;

the programmer having operable data communications with the IMD and the expert data center;

the PDM having operable data communications with the programmer, the IMD and the bi-directional communications link, wherein the programmer and the PDM operate as an interface between the IMD, the remote web-based data center; and

a plurality of specialized software modules implemented in the programmer and the PDM to collect, manage, perform high-yield chronic evaluation and analysis for real-time delivery of remote therapy and clinical care.

2. The system of claim 1, wherein said PMD is structured to exchange both therapeutic and diagnostic data with the IMD.

3. The system of claim 1, wherein the PDM is structured to exchange unregulated diagnostic data with the IMD.

4. The system of claim 1, wherein the PDM is structured to operate as a mobile data exchange unit and data is stored in an on-board memory.

5. The system of claim 1, wherein the bi-directional communications link is an intranet.

6. The system of claim 1, wherein the bi-directional communications link is an internet.

7. The system of claim 1, wherein the bi-directional communications link is a satellite.

8. The system of claim 1, wherein the bi-directional communications link is a global positioning system.

9. The system of claim 1, wherein the bi-directional communications link includes at least one communication link selected from the group of communication links consisting of a telephone line, an intranet, an internet, a satellite, a laser waveform, and a global positioning system.

10. An interactive remote diagnostics, therapy and data exchange system implemented in a bi-directional communications link wherein a remote web-based expert data center, a programmer and a personal data messenger (PDM) operating as web-compatible interface medical devices for an IMD are remotely linked to implement remote data exchange relating to diagnostics, therapy and chronic management of the IMD, the PDM unit comprising:

a bar code scanner;
an infrared communications port;
a wireless network interface;

a serial communications port;
a memory bank;
a battery or power system;
a flat panel display; and
a microprocessor;

said scanner, said infrared communications port, said wireless network interface, said serial communications port, said memory and said flat panel display being in operable electrical communications with the microprocessor and the power system.

11. The system of claim 10, wherein said bar code scanner is implemented to record identification documents relating to the IMD before implantation.

12. The system of claim 11, wherein said bar code scanner stores the identification documents in the memory bank and is structured to transfer the documents to other data storage or exchange systems.

13. The system of claim 12, wherein said data storage or exchange system includes a web-based expert data center.

14. The system of claim 12, wherein said data storage or exchange system includes a programmer.

15. The system of claim 13, wherein said data storage or exchange system includes a PC.

16. The system of claim 13, wherein said data storage or exchange system includes a printer.

17. A method for remote delivery of an interactive diagnostics, monitoring and delivery of therapy and clinical care implemented in a bi-directional communication link wherein a remote web-based expert data center, a programmer and a PDM operating as web-compatible interface medical

devices for an IMD support interactive software and hardware adapted to support monitoring, diagnosis and therapy regimens for the IMDs, wherein a remote data center is in data communications, via a network link, the method comprising:

5 connecting the programmer to the remote data center via the data communications network link;
 connecting the PDM to the programmer and the remote data center via the data communications network link; and
 uplinking the IMD to the programmer.

10 18. The method of claim 17, wherein the PDM is connected to the IMD.

15 19. The method of claim 17, wherein the PDM is a data messenger between the IMD, the remote data center and the programmer.

20 20. The method of claim 17, wherein the PDM is implemented to secure identification of the IMD before implant.

25 21. The method of claim 19, wherein the PDM is implemented to transfer pre-implant data to the programmer.

 22. The method of claim 19, wherein the PDM is implemented to modify, store and forward data for use in the unregulated section of the programmer's function.

30 23. The method of claim 18, wherein the data communications network is an intranet.

 24. The method of claim 17, wherein the data communications network is an internet.

25. The method of claim 17, wherein the data communications network is a satellite.

5 26. The method of claim 17, wherein the communications network is a telephone line.

27. The method of claim 17, wherein the data communications network is a global positioning system.

10 28. The method of claim 17, wherein the data communications network includes at least two communication links selected from the group of communication links consisting of a telephone line, an intranet, an internet, a satellite, a laser wave form, and a global positioning system.

15 29. The method of claim 17, wherein the PDM is implemented as a medical messenger with real time data transmission, data packets routed to the remote data center through the PDM's high speed wireless network interface.

20 30. The method of claim 17, wherein the PDM is implemented as a medical messenger for real time data transmission of data packets routed to the remote data center through the PDM's serial port.

25 31. The method of claim 30, wherein the serial port is connected to a standard modem.

32. The method of claim 17, wherein the PDM is implemented to store and forward data to and from a PC.

33. The method of claim 17, wherein the PDM is implemented to store and forward information to a printer.